

# Claims

[c1] What is claimed is:

1. An inkjet printer comprising:

at least one cartridge comprising an ink reservoir, a printhead, and a thermal sensing element, the ink reservoir being used for storing ink, the printhead being disposed on a bottom side of the ink reservoir and comprising a plurality of nozzles and a plurality of heating elements corresponding to the nozzles, the thermal sensing element being used for sensing a temperature of the printhead;

a detecting circuit being electrically connected to the thermal sensing element and generating a sensing signal according to the temperature of the printhead sensed by the thermal sensing element; and

a controller being electrically connected to the detecting circuit and identifying a type of the cartridge according to the sensing signal.

[c2] 2. The inkjet printer of claim 1 wherein the detecting circuit comprises a signal sensing circuit, the signal sensing circuit being electrically connected to the thermal sensing element and generating the sensing signal.

- [c3] 3.The inkjet printer of claim 2 wherein the signal sensing circuit is a voltage divider.
- [c4] 4.The inkjet printer of claim 2 wherein the detecting circuit further comprises a signal converter, the signal converter being electrically connected to the signal sensing circuit and converting the sensing signal generated by the signal sensing circuit into another format.
- [c5] 5.The inkjet printer of claim 4 wherein the signal converter is an analog-to-digital converter and converts the sensing signal generated by the signal sensing circuit into a digital format.
- [c6] 6.The inkjet printer of claim 1 wherein the thermal sensing element is a thermistor and a resistance value of the thermistor changes according to variation in the temperature of the printhead.
- [c7] 7.The inkjet printer of claim 1 wherein the thermal sensing element is a thermal diode and an output current value of the thermal diode changes according to variation in the temperature of the printhead.
- [c8] 8.The inkjet printer of claim 1 wherein the thermal sensing element is a thermocouple and a loop voltage of the thermocouple changes according to variation in the tem-

perature of the printhead.

- [c9] 9.The inkjet printer of claim 1 wherein the thermal sensing element is a resistance temperature detector (RTD), and a voltage value or a current value of the RTD changes according to variation in the temperature of the printhead.
- [c10] 10.A method for identifying a type of cartridge, at least one cartridge being installed in an inkjet printer, the cartridge comprising a printhead and an ink reservoir for storing ink, the printhead being disposed on a bottom side of the ink reservoir and comprising a plurality of nozzles and a plurality of heating elements corresponding to the nozzles, the method comprising the steps of: disposing different thermal sensing elements on different cartridges; sensing a temperature of the printhead on the cartridge with the thermal sensing element; generating a sensing signal according to the temperature sensed by the thermal sensing element; and identifying a type of the cartridge according to the sensing signal.
- [c11] 11.The method of claim 10 wherein the inkjet printer comprises a detecting circuit, the detecting circuit being electrically connected to the thermal sensing element

and generating the sensing signal.

- [c12] 12.The method of claim 11 wherein the detecting circuit comprises a signal sensing circuit, the signal sensing circuit being electrically connected to the thermal sensing element and generating the sensing signal.
- [c13] 13.The method of claim 12 wherein the signal sensing circuit is a voltage divider.
- [c14] 14.The method of claim 12 wherein the detecting circuit further comprises a signal converter, the signal converter being electrically connected to the signal sensing circuit and converting the sensing signal generated by the signal sensing circuit into another format.
- [c15] 15.The method of claim 14 wherein the signal converter is an analog-to-digital converter and converts the sensing signal generated by the signal sensing circuit into a digital format.
- [c16] 16.The method of claim 10 wherein the thermal sensing element is a thermistor and a resistance value of the thermistor changes according to variation in the temperature of the printhead.
- [c17] 17.The method of claim 10 wherein the thermal sensing element is a thermal diode and an output current value

of the thermal diode changes according to variation in the temperature of the printhead.

[c18] 18.The method of claim 10 wherein the thermal sensing element is a thermocouple and a loop voltage of the thermocouple changes according to variation in the temperature of the printhead.

[c19] 19.The method of claim 10 wherein the thermal sensing element is a resistance temperature detector (RTD), and a voltage value or a currentvalue of the RTD changes according to variation in the temperature of the printhead.